INDEX TO VOLUME 20

A

Absorption of Radiation, (W. E. Forsythe and Frances L. Christison), 693.
AC Carbon Arc Characteristics (R. A. Sawyer and C. W. Byers), 719.
Activators in Cando-Luminescence (E. L. Nichols and L. J. Boardman), 115.
Anomalous Trichomatic Vision, Critical Frequency Measurements in (H. A. Blair), 601.
Arc-Sine Tables (C. W. Woodworth), 463.
Atomic Resonance Radiation (J. Rud Nielsen and Norman Wright), 27.

B

BALLARD, JAMES W.: Infrared Sensitivity of Cesium Oxide Photo-Electric Cells, 618.
BAUD, R. V. and W. D. WRIGHT: The Analysis of the Colors Observed in Photoelastic Experiments, 381.
Beam Scanning Method in Television (Herbert E. Ives and A. L. Johnsrud), 11.
BLAIR, H. A.: Critical Frequency Measurements in Anomalous Trichromatic Vision, 601.
BOARDMAN, L. J. and E. L. NICHOLS: Activators in Cando-Luminescence, 115.
BURNS, KEIVIN: A Comparison of Laboratory and Solar Wave Lengths, 212.
BYERS, C. W. and R. A. SAWYER: Physical Characteristics of AC Therapeutic Carbon Arcs, 719.

C

Calibration of Standard Lamps for Relative and Absolute Measurements (L. S. Ornstein, D. Vermeulen and E. F. M. van der Held), 573.
Cando-Luminescence, Activators in (E. L. Nichols and L. J. Boardman), 115.
CARTWRIGHT, C. HAWLEY: Infrared Transmission of the Flesh, 81.
CHRISTISON, FRANCES L. and W. E. FORSYTHE: The Absorption of Radiation from Different Sources by Water and by Body Tissue, 693.
CHRISTISON, FRANCES and W. E. FORSYTHE: Ultraviolet Radiation from the Sun and Heated Tungsten, 396.
Chromolinoscope, The (Herbert E. Ives), 343.
COBLENTZ, W. W. and R. STAIR: Correlation of the Shade Numbers and Densities of Eye-Protective Glasses, 624.
COHN, BYRON E. and R. E. NYSWANDER: Measurements of Thermoluminescence of Glass Exposed to Light, 131.
Color Analyses in Photoelasticity (R. V. Baud and W. D. Wright), 381.
Color Temperature of Lamps (Clayton H. Sharp), 62.
Color Vision, Young's Theory of (Selig Hecht), 231.
Complementarism (I. H. Godlove), 411.
Contemporary Theories of Light (W. F. G. Swann), 484.
Correcting Lenses, The Mounting of (G. W. Moffitt), 457.
CREW, HENRY: Thomas Young's Place in the History of the Wave Theory of Light, 3.
Critical Frequency Measurements in Anomalous Trichromatic Vision (H. A. Blair), 601.

D

DAVIDOVICH, PAUL: Commercial Glass Transmitting Ultraviolet Light, 627.
Deflection of Light (Charles Lane Poor), 173.
DEISCH, NOEL: Graphic Symbols in Applied Optics, 303.
DEISCH, NOEL: A Suggested Method for Applying the Slitless Spectrograph to the Measurement of the Doppler Shift, 685.
Diffraction Grating (Jenny E. Rosenthal), 87.
Dispersion of Light in Metals, The (J. B. Nathanson), 469.
DODD, L. E.: Field of View in the Oclinometer, 367.
Doppler Shift, Measurement of the (Noel Deisch), 685.
DYE, J. A. and GEORGE H. MAUGHAN: The Amount of Ultraviolet Radiation Necessary to Cure Rickets, 279.

E

Eclipses, The Deflection of Light as Observed at Total Solar (Charles Lane Poor), 173.
Editorial: 1.
ELLER, WILLARD H.: Photoconductivity in Dielectric Liquids, 71.
Elliptical Polarization Chart (F. E. Wright), 529.
Executive Council, Minutes of the, 145.
Eye-Protective Glasses, Correlation of the Shade Numbers and Densities of (W. W. Coblentz and R. Stair), 624.

F

FORSYTHE, W. E. and FRANCES L. CHRISTISON: The Absorption of Radiation from Different Sources by Water and by Body Tissue, 693.
FORSYTHE, W. E. and FRANCES L. CHRISTISON: Ultraviolet Radiation from the Sun and Heated Tungsten, 396.

G

Geometrical Radiation Problem (J. Rud Nielsen), 701.
Gloss Measurement (A. H. Pfund), 23.
GODLOVE, I. H.: The Wave Lengths of Complementary Hues, 411.

H

HARRISON, GEORGE R. and PHILIP A. LEIGHTON: Homochromatic Spectrophotometry in the Extreme Ultraviolet, 313.
HECHT, SELIG: The Development of Thomas Young's Theory of Color Vision, 231.
Hecht's Theory of Vision, The Mixture Data Embodied in the Tentative Curves of (Deane B. Judd), 647.
HOLLADAY, L. L., M. LUCKIESH, and A. H. TAYLOR: Reaction of Untanned Human Skin to Ultraviolet Radiation, 423.

I

Infrared Sensitivity of Cesium Oxide Photo-Electric Cells (James W. Ballard), 618.
Infrared Transmission of Flesh (C. Hawley Cartwright), 81
Intensifying Screens, Speed of (Frank E. Swindells), 51.
IVES, HERBERT E.: The Chromolinoscope Revived, 343.
IVES, HERBERT E.: Parallax Panoramagrams for Viewing by Reflected Light, 585.
IVES, HERBERT E.: Parallax Panoramagrams Made with a Large Diameter Concave Mirror, 597.
IVES, HERBERT E.: Parallax Panoramagrams Made with a Large Diameter Lens, 332.
IVES, HERBERT E. and A. L. JOHNSRUD: Television in Colors by a Beam Scanning Method, 11.
Ives Medallist for 1929, Professor Edward Leamington Nichols, 161.

J

JOHNSRUD, A. L. an IVES, HERBERT E.: Television in Colors by a Beam Scanning Method, 11.
Journal of the Optical Society of America and Review of Scientific Instruments: Statement of Cash Receipts and Disbursements, 421.
JUDD, DEANE B.: The Mixture Data Embodied in the Tentative Curves of Hecht's Theory of Vision, 647.

L

Laboratory and Solar Wave Lengths, A Comparison of (Keivin Burns), 212.
LAWTON, W. E. and MORTON, MASIUS: On the Reflection of a Liquid Between Two Thin Prisms, 271.
LEIGHTON, PHILIP A. and GEORGE R. HARRISON: Homochromatic Spectrophotometry in the Extreme Ultraviolet, 313.
LOVELAND, R. P. and A. P. H. TRIVELLI: Photomicrography of Silver Halide Grains with Ultraviolet Light, 97.
LUCKIESH, M., L. L. HOLLADAY and A. H. TAYLOR: Reaction of Untanned Human Skin to Ultraviolet Radiation, 423.
Luminescence, Reversible Oxidation in (Edward L. Nichols), 106.

M

McRAE, D. BRENT and RICHARD C. TOLMAN: The Reflection and Transmission of Light by Photographic Plates, 565.
Manganese Distilled in Vacuum, Note on the Optical Constants of (J. B. Nathanson), 593.
MASIUS, MORTON and W. E. LAWTON: On the Refraction of a Liquid Between Two Thin Prisms, 271.
MAUGHAN, GEORGE H. and J. A. DYE: The Amount of Ultraviolet Radiation Necessary to Cure Rickets, 279.
Mercury, Perihelion of (Herbert R. Morgan), 225.
Metals, The Dispersion of Light in (J. B. Nathanson), 469.
Minutes of the Executive Council, 145.
Mobile Color (G. A. Shook), 354.
MOFFITT, G. W.: On the Mounting of Correcting Lenses in Visual Telescopes Used with Stellar Spectrographs, 457.
MORGAN, HERBERT R.: The Observed Motion of the Perihelion of Mercury, 225.

N

NATHANSON, J. B.: The Dispersion of Light in Metals, 469.
NATHANSON, J. B.: Note on the Optical Constants of Manganese Distilled in Vacuum, 593.
NICHOLS, E. L. and L. J. BOARDMAN: Activators in Cando-Luminescence, 115.
NICHOLS, EDWARD L.: Reversible Oxidation in Luminescence, 106.
Nichols, Professor Edward Leamington—Ives Medallist for 1929, 161.
NIELSEN, J. RUD. The Filling of a Spectrograph with Light Considered as a Geometrical Radiation Problem, 701.
NIELSEN, J. RUD and NORMAN WRIGHT: Atomic Resonance Radiation in Potassium Vapor, 27.
Note: 33.
NYSWANDER, R. E. and BYRON E. COHN: Measurements of Thermoluminescence of Glass Exposed to Light, 131.

O

Oclinometer, Field of View in the (L. E. Dodd), 367.
Officers and Council, O. S. A. Frontispiece.
Officers and Council, O. S. A., 312.

Optical Constants of Manganese Distilled in Vacuum, Note on the (J. B. Nathanson), 593.
Optical Society of America: Statement of Cash Receipts and Disbursements, 419.
ORNSTEIN, L. S., D. VERMEULEN and E. F. M. VAN DER HELD; Calibration of Standard Lamps for Relative and Absolute Measurements, 573.

P

Parallax Panoramagrams (Herbert E. Ives), 332.
Parallax Panoramagrams for viewing by reflected light (Herbert E. Ives), 585.
Perihelion of Mercury (Herbert R. Morgan), 225.
PFUND, A. H.: The Measurement of Gloss, 23.
Photoconductivity in Liquids (Willard H. Eller), 71.
Photoelasticity, Color Analysis in (R. V. Baud and W. D. Wright), 381.
Photographic Plates, The Reflection and Transmission of Light by (Richard C. Tolman and D. Brent McRae), 565.
Photometry in the Schumann Region (George R. Harrison and Philip A. Leighton), 313.
Photomicrography (A. P. H. Trivelli and R. P. Loveland), 97.
Pigment Primaries and Mixtures, A Study of (Frank F. Rupert), 661.
POOR, CHARLES LANE: The Deflection of Light as Observed at Total Solar Eclipses, 173.
Potassium Resonance Radiation (J. Rud Nielsen and Norman Wright), 27.
Proceedings of the Thomas Young Memorial Meeting—Fourteenth Annual Meeting of the Optical Society of America, 139.

R

Refraction of a Liquid (Morton Masius and W. E. Lawton), 271.
Reversible Oxidation in Luminescence (Edward L. Nichols), 106.
Reviews:
Proceedings of the Seventh International Congress of Photography, 31.
Handbuch der Wissenschaftlichen und Angewandten Photographie. Vol. III. A. Coehn, G. Jung and J. Daimer, 32.
Introduction to Physical Optics. John K. Robertson, 32.
Electron Physics. J. Barton Hoag, 33.
Solarium, 33.
Geometrische Optik. A. König, 85.
Die Enstehung des Glaswerks von Schott and Gen. Ernst Abbe, 86.
Polarization Dielectrique. J. Errera, 96.
Squint, Its Causes, Pathology and Treatment. Claud Worth, 137.
Recent Advance in Ophthalmology. W. Stewart Duke-Elder, 137.
Journal of the Society of Motion Picture Engineers, 230.
Atoms, Molecules and Quanta. Arthur E. Ruark and Harold C. Urey, 330.
Handbuch der Experimentalphysik. Band XX, 1 Teil, 361.
Applied Optics and Optical Design, Part 1. Prof. A. E. Conrady, 364.
Diagnostica e Technica di Laboratorio, 422.
The Kinematical Design of Coupling in Instrument Mechanisms. A. F. C. Pollard, 422.
Joseph Fraunhofers Leben, Leistungen und Wirksamkeit. Moritz v. Rohr, 466.
Guide de l'Ouvrier en Verres d'Optique de Precision. Col. Charles Dévé, 467.
Die Optische Werkstatt. W. Ewald, 467.
X-ray Technology. H. M. Terrill and C. T. Ulrey, 468.
Matter and Radiation. John Buckingham, 524.
Structure of Line Spectra. L. Pauling and S. Goudsmit, 525.
New Frontiers in Physics. Paul R. Heyl, 527.
The Use of the Microscope. John Belling, 642.
Ueber die Entwicklung der Theorie der Optischen Instruments seit Abbe. H. Boegehold, 642.
Rickets, Ultraviolet Radiation Necessary to Cure (George H. Maughan and J. A. Dye), 279.
ROSENTHAL, JENNY E.: Spectral Intensity and Groove Form of the Diffraction Grating, 87.
RUPERT, FRANK F.: A Study of Pigment Primaries and Mixtures, 661.

S

SAWYER, R. A. and C. W. BYERS: Physical Characteristics of AC Therapeutic Carbon Arcs, 719.
Schumann Region, Photometry in (George R. Harrison and Philip A. Leighton), 313.
SHARP, CLAYTON H.: An Apparatus to Measure Color Temperature of Incandescent Lamp Filaments, 62.
SHOOK, G. A.: Some Experiments in Mobile Color, 354.
Sine-Arc Tables (C. W. Woodworth), 463.
SKELLETT, A. M.: Modes of Vibration of a Round Plate Cut from a Quartz Crystal, 293.
Slitless Spectrograph (Noel Deisch), 685.
Solar Wave Lengths, A Comparison of Laboratory and (Keiven Burns), 212.
Spectrograph, The Filling of (J. Rud Nielsen), 701.
Speed of Intensifying Screens (Frank E. Swindells), 51.
STAIR, R. and W. W. COBLENTZ: Correlation of the Shade Numbers and Densities of Eye-Protective Glasses, 624.

STAUSS, H. E.: A Comparison of the Critical Angle of Reflection and the Index of Refraction of X-rays, 616.
SWANN, W. F. G.: Contemporary Theories of Light, 484.
SWINDELLS, FRANK E.: Factors Influencing the Speed of Intensifying Screens, 51.
Symbols in Applied Optics (Noel Deisch), 303.

T

TAYLOR, A. H., M. LUCKIESH, and L. L. HOLLADAY: Reaction of Untanned Human Skin to Ultraviolet Radiation, 423.
Television in Colors (Herbert E. Ives and A. L. Johnsrud), 11.
Thermoluminescence (R. E. Nyswander and Byron E. Cohn), 131.
TOLMAN, RICHARD C. and D. BRENT MCRAE: The Reflection and Transmission of Light by Photographic Plates, 565.
TRIVELLI, A. P. H. and R. P. LOVELAND: Photomicrography of Silver Halide Grains with Ultraviolet Light, 97.

U

Ultraviolet Light, Commercial Glass Transmitting, (Paul Davidovich), 627.
Ultraviolet Light, Photomicrography of Silver Halide Grains with (A. P. H. Trivelli and R. P. Loveland), 97.
Ultraviolet Light, Quantitative Biological Effects of Monochromatic (Israel Weinstein), 433.
Ultraviolet Radiation (W. E. Forsythe and Frances Christison), 396
Ultraviolet, Radiation Necessary to Cure Rickets (George H. Maughan and J. A. Dye), 279.
Ultraviolet Radiation, Reaction of Untanned Human Skin to (M. Luckiesh, L. L. Holladay and A. H. Taylor), 423.

V

VAN DER HELD, E. F. M., L. S. ORNSTEIN and D. VERMEULEN: Calibration of standard lamps for relative and absolute measurements, 573.
VERMEULEN, D., L. S. ORNSTEIN and E. F. M. VAN DER HELD: Calibration of standard Lamps for relative and absolute measurements, 573.
Vibrations of a Plate Quartz (A. M. Skellett), 293.

W

Wave Theory and Thomas Young (Henry Crew), 3.
WEINSTEIN, ISRAEL: Quantitative Biological Effects of Monochromatic Ultraviolet Light, 433.
WILLIAMS, HORATIO B.: Thomas Young, the Man and Physician, 35.
WOODWORTH, C. W.: Sine-Arc and Arc-Sine Tables for Lens Calculation, 463.
WRIGHT, F. E.: A Spherical Projection Chart for use in the Study of Elliptically Polarized Light, 529.
WRIGHT, NORMAN and J. RUD NIELSEN: Atomic Resonance Radiation in Potassium Vapor, 27.
WRIGHT, W. D. and R. V. BAUD: The Analysis of the Colors Observed in Photoelastic Experiments, 381.

X

X-rays, A Comparison of the Critical Angle of Reflection and the Index of Refraction (H. E. Stauss), 616.

Y

Young and the Wave Theory (Henry Crew). 3.
Young Memorial Meeting, Proceedings of, 139.
Young, Thomas (Horatio B. Williams), 35.
Young's Theory of Color Vision (Selig Hecht), 231.